



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,967	12/10/2003	Nima Mokhlesi	SNDK.333US0	2447
36257	7590	08/31/2005	EXAMINER	
PARSONS HSUE & DE RUNTZ LLP 595 MARKET STREET SUITE 1900 SAN FRANCISCO, CA 94105			WILSON, ALLAN R	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/732,967

Applicant(s)

MOKHLESI ET AL.

Examiner

Allan R. Wilson

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-23 is/are allowed.
- 6) ☒ Claim(s) 1, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 2-5, 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 USC § 102(b) as being anticipated by Kim et al. (“Kim”) U.S. Patent No. 5,278,438.

With regards to claim 1, Kim illustrates in figures 1-13, particularly figures 1, 6 and 13, (entire document) a two-dimensional array of spaced apart stacks 12 of self-aligned elements including a gate dielectric layer 13 on a surface of the substrate, a conductive floating gate 14 on the gate dielectric, an inter-gate dielectric layer 18 on the floating gate and a conductive control gate 16 on the inter-gate dielectric, isolation trenches 11, 30, 42 formed in the substrate between and surrounding the individual stacks, and at least a first set of elongated conductors 90 extending across the stacks in contact with control gates thereof and protruding into spaces between the floating gates of adjacent stacks.

Claims 24 and 25 are rejected under 35 USC § 102(b) as being anticipated by Mori, U.S. Patent No. 5,071,782.

With regards to claim 24, Mori illustrates in figures 1-4b, particularly figures 1b and 4b, (entire document) a rectangular array of charge storage elements 20 formed across a surface of

Art Unit: 2815

the substrate 11, trenches 84 formed into the substrate between at least some of the charge storage elements, elongated control gates 38 extending across charge storage elements and having portions extending down between them, and select transistor gates FG positioned within at least some of the trenches and coupled with the downward extending control gate portions through a layer of tunnel dielectric ILO sandwiched between them.

With regards to claim 25, Mori discloses in at least col. 4, line 55 to col. 5, line 18, the charge storage elements are conductive floating gates.

Allowable Subject Matter

Claims 6-23 are allowed.

Claims 2-5, 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 07/18/2005 have been fully considered but they are not persuasive.

The argument that Kim does not show the isolation trenches surrounding individual stacks is not persuasive. Applicants has defined "surrounding" to mean on all sides, which the Examiner agrees. Reviewing Kim, the Examiner finds in FIG. 13 isolation trenches on all sides. On two sides there are the air trenches 30 and 42. On the other two sides there are the trenches

Art Unit: 2815

filled with oxide stripes 11. Therefore, as illustrates in FIG. 13 “isolation trenches 11, 30, 42 surrounding individual stacks 20.

The argument that “claims recite ‘a rectangular array of charge storage elements formed across a surface of the substrate’ that the Mori patent does not describe” is not persuasive. The broad limitation “charge storage elements” is not defined by the claim. It could mean an entire memory element 20 or part of a cell (i.e. FG). Additionally, the term “across a surface” does not have the limited meaning sought by Applicants. The Examiner uses the broadest reasonable meaning, in this case “across the surface” could be any different areas of the surface.

The argument that “it is not seen that the Mori patent suggests ‘select transistor gates’ as recited in the last paragraph of claim 24” is not persuasive. The term “select” is a description and is not defined by the claim. Therefore, the “select transistor gates” can be the floating gates (FGs). There is nothing in the claim to suggest electrical connection of the select transistor gates.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

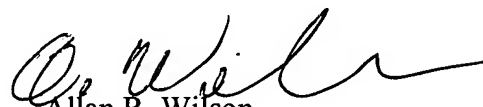
Art Unit: 2815

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from an examiner should be directed to Primary Examiner Allan Wilson whose telephone number is (571) 272-1738. Examiner Wilson can normally be reached 7:00-4:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Allan R. Wilson
Primary Examiner
30 August 2005